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Newsline

Product testing consistent with mandate to assist Alberta industry

Dale Wascherol installs thermocouples at the cone's surface to measure temperature variations.

For Alberta innovators, one of the best sources of assistance for meeting testing requirements is the Alberta Research Council's Industrial Services Laboratory, Industrial Technologies Department.

This proved to be true for Gerhard Schmidt, President, Infratronic Technics Inc., when he needed to have his new product tested. He is typical of Alberta's inventive spirit—the help he received, typical of the laboratory's role in the inventive process.

His prototype of a combined radiant-heat/hot-air system uses diesel fuel combustion gases to heat a fluted conical surface to about 870 °C. This surface then emits radiant heat of approximately two million BTUs per hour—hot enough to melt a strip of ice (three metres wide and three millimetres thick) off an airport runway at a rate of two kilometres per hour.

Diverse industrial uses were foreseen for the heater, which produces fresh, hot air, as well as radiant heat and hot water. The unit's radiant heat could be used to: thaw the ground for cold weather construction work; sterilize and dry sewage sludge; dry alfalfa and peat moss in dehydration plants; sterilize top soil; and keep commercial orchards frost free. The fresh, hot air could be piped into underground and enclosed work environments.

Mr. Schmidt knew his system worked, but he had to ensure it was operating at maximum efficiency. He enlisted the help of the Industrial Services Laboratory.

The success of this product rests on producing the maximum radiant heat possible. Mr. Schmidt did not have the equipment nor the instrumentation

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Allocation account in place

Employees are expected to receive greater reimbursement of their health care expenses under the new flexible benefits plan, although the total amount spent by the Alberta Research Council to provide employee benefits has not changed.

Maja Hoeing, Human Resources Department, explains that money set aside

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Newsline is a monthly publication for the employees of the Alberta Research Council.

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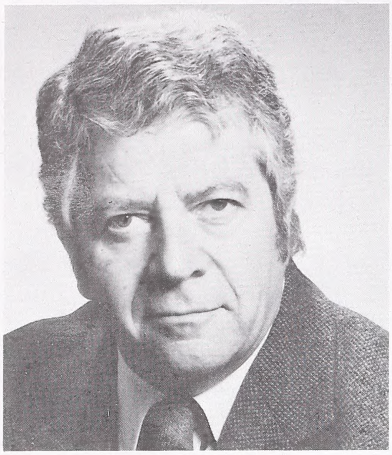
ALBERTA
RESEARCH
COUNCIL

Dr. J.G. Kaplan appointed Research Fellow



Dr. J. Gordin Kaplan

Dr. J. Gordin Kaplan has been appointed a Research Fellow of the Alberta Research Council. A renowned biochemist, lecturer and researcher in Canada, the United States and Europe, Dr. Kaplan is a Fellow of the Royal Society of Canada.

The position of Research Fellow recognizes scientists for their outstanding contributions. Dr. Clem Bowman, President, in announcing the one-year Board of Directors' appointment said, "Dr. Kaplan has achieved distinction not only through his many scientific publications, but also as a leader, both in his field and the community at large."

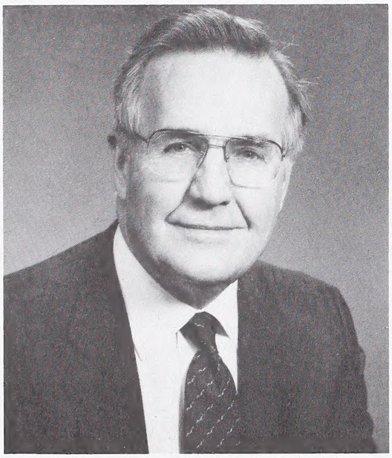
Dr. Kaplan's principal role will be to provide scientific counselling to the Research Council's Biotechnology Department and also to conduct research jointly with members of the department. He will continue as Professor of Biochemistry at the University of Alberta where his research focusses on the control of the proliferation of lymphocytes, the cells responsible for the immune reactions of the body.

He has published more than 100 papers in recognized journals in the fields of biochemistry, biology and medicine and has lectured widely at universities and hospitals in Canada and the United States, as well as in France, Germany, China, Japan, Great Britain and Switzerland. He is chairman of the Committee for International Scientific and Technological Affairs, National Research Council of Canada.

He is a director of the Edmonton Research and Development Park Authority and was the founding vice-president of the Edmonton Council of Advanced Technology.

Dr. Kaplan retired earlier this year from his position as vice-president (research) at the University of Alberta and from the Board of Directors of the Alberta Research Council.

Roy O. Lindseth elected a Fellow of the Academy of Science



Roy O. Lindseth

Roy O. Lindseth, Calgary, president and director of Teknica Resource Development Ltd., and a member of the Alberta Research Council's Board of Directors, has been elected a Fellow of the Academy of Science of the Royal Society of Canada.

Mr. Lindseth was one of 50 distinguished Canadian humanists and scientists to be inducted into the Society at the academy's annual meeting, held this spring in Ontario.

The Royal Society of Canada, founded in 1882, is a national academy which endeavors to recognize high distinction and stimulate achievement in the humanities, the social sciences and the sciences through elections to fellowship and awards of medals, prizes and scholarships.

Mr. Lindseth is active in his contribution to the sciences. Current appointments include: Board of Govenors, Calgary Council for Advanced Technology; Board of Directors and Executive Committee, Natural Sciences and Engineering Research Council of Canada; and Senior Member, Institute of Electronics and Electrical Engineering, to name a few.

Allocation account

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in an allocation account can be used, tax free, for health related expenses, giving employees a second source from which to recover costs.

"For example, once the deductibles are met, employees can recover 50 to 80 per cent of their dental expenses from the insurance company and claim the remaining 20 to 50 per cent from their allocation account. Also, expenses not covered by the insurance companies, such as vision care, can now be recovered from the allocation account," she says.

Prior to the introduction of the flexible benefits plan, the Research Council paid 100 per cent of its benefit monies to insurance companies to cover premiums. Under the new system, 88 per cent of allotted funds are paid to insurance companies, and 12 per cent are available for direct employee use in the form of allocation accounts.

Funding of the allocation accounts, approximately $244,000, is made possible by the larger employee deductible, which has reduced insurance premium costs to the Research Council, and by changes in the cost sharing arrangement.

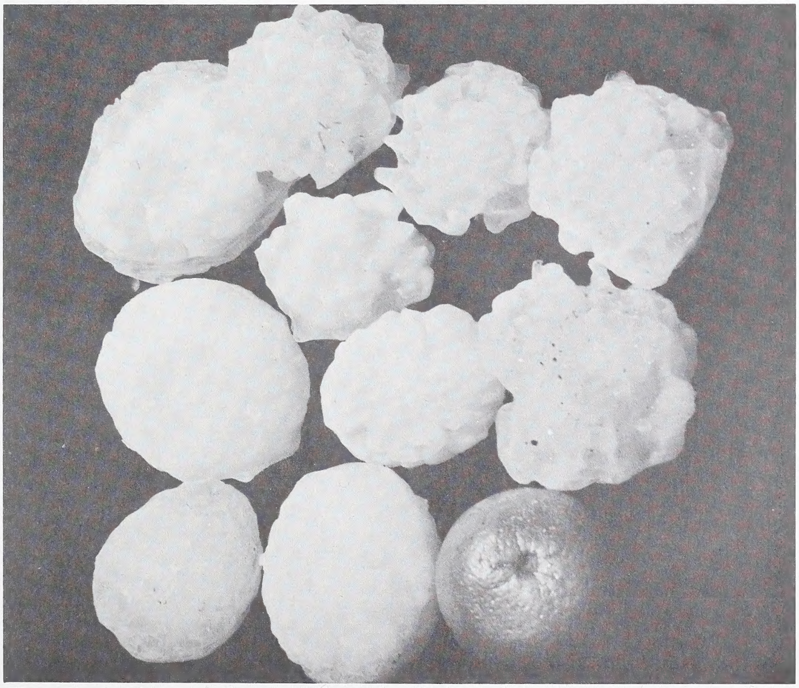
Amounts established for individual allocation accounts are based on compensating employees for bearing a greater share of health care costs (staff now pay Long Term Disability, full Alberta Health Care and a greater deductible) and the Research Council assuming the full cost of Major Medical insurance.

Employee changes

We welcome to the Research Council: **Margaret Booth**, Clerk Typist, Geological Survey; **Mavis Legg**, Financial Analyst, Financial Services.

We say goodbye to: **Jill Crawley, Rene Erb, John deHaan, Jeanette Lang, David Pauls, Fred Reed, John Starr, Koichi Takamura.**

Summer of '87!



The Alberta Research Council was fortunate in escaping damage from the July 31 tornado. Employees' personal property, however, did not fare as well in the accompanying hail storm, which also damaged one skylight at the southeast Edmonton site.

Results of a survey taken indicate the majority of damage occurred to staff vehicles parked at the southeast Edmonton site, as hail stones the size of tennis balls and larger smashed windshields and dented bodywork. Of the employees affected, 33 reported estimated costs of $67,000 to repair automobiles, homes and other personal property.

Product testing

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necessary to ascertain temperature values for the system. He wanted to know the volume and temperature of hot air coming through the heat exchanger versus that coming from the stacks in the form of waste heat.

Testing indicated where slight design modifications were required. These changes will be implemented and the heater will be tested again.

In addition to meeting their client's stated needs, laboratory staff suggested additional tests which could be performed, answering questions previously not considered. For instance, additional insulation was recommended in some areas to prevent heat loss and to increase the unit's operating safety.

"Testing has shown us in a concrete way that we are on the right track with our product. Test data also serve to substantiate our product performance claims," Mr. Schmidt says.

"It has been a long, uphill fight. There are very few groups around who have experience in radiant heat. Working with the Industrial Services Laboratory has significantly reduced the trial and error involved in bringing our product to a marketable stage."

Besides offering comprehensive heat testing facilities, the Industrial Services Laboratory provides mechanical and metallographical testing services. These include: tensile, compressive and impact strength testing; hardness measurements; wear, abrasion, and weatherability; analysis of color and gloss; and macrostructure and microstructure determination.

Polymer and industrial chemical services are also available, including: physical tests to American Standards and Testing of Materials (ASTM) specifications; characterization and chemical testing; cold temperature properties assessment; testing of geotextiles and geomembranes; testing standards development; identification of industrial materials; and product and raw material evaluation.

These services, uniquely suited to assist Alberta industry, are used extensively. For instance, the laboratory handled about 220 contracts and generated approximately $450,000 in revenue last year. Upwards of 30 projects, at various stages of completion, are commonly ongoing at any one time, and the laboratory handles 30 to 50 general inquiries each month.

Display panels going up in time for open house

Visitors coming to the Research Council's open house September 27 will see a new system of display panels on the walls of the southeast Edmonton site.

Initially designed to reduce the interruption caused to laboratory staff by visitors, the panels will facilitate self-guided tours during the open house and are expected to increase the Research Council's capacity to accommodate a greater number and diversity of visitors in the future.

Approximately 40 panels will describe the capabilities and functions of the building's laboratory and service areas, including Biotechnology, Computing, Electronics Test Centre, Forest Products Laboratories, Gasoline and Oil Testing Laboratory, Geology Laboratory, Industrial Development Department, Industrial Services Laboratory, Resource Technologies Department, and the Soils Laboratory.

Panels will be placed adjacent to the area they describe.

Dale Hite, Publishing and Graphics, adds final touches to the display panels.

Staff notes

Dr. Ted Heidrick, Manager, Contract Research, Oil Sands Research Department has accepted a three-year term as a member of the Natural Sciences and Engineering Research Council's (NSERC) Grant Selection Committee for Mechanical Engineering.

Composed of university researchers, and researchers and managers from the private and public sectors, Grant Selection Committees are 'peer' committees responsible for evaluating grant applications on the basis of the research excellence of the applicants and the quality of their research proposals. They evaluate not only operating grants, but also equipment, infrastructure and conference grants.

★ ★ ★

Two Research Council staff members have been recently appointed as adjunct professors by the University of Alberta. Dr. Brad Thompson, Associate Research Officer, Biotechnology Department, has been appointed adjunct professor of Microbiology, and Dr. Peter Tremaine, presently seconded to Alberta Oil Sands Technology and Research Authority (AOSTRA), has been appointed adjunct professor of Geology.

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For the second time, Dr. Rand Harrison, Manager, Oil Sands Geology Group, Geological Survey Department, has received a Distingusihed Service Award from the Canadian Society of Petroleum Geologists. The award was given to recognize Rand's service (1981-1985 and 1987) as a co-leader of the Society's Student Industry Field Trip (SIFT) through the southern Rocky Mountains.

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A summer student with the Geological Survey Department has been awarded second prize in the Undergraduate category of the Canadian Institute of Mining and Metallurgy (CIM) student essay competition. Holly Raddysh won a one-year subscription to the CIM Journal and $200 cash for her thesis, "Sedimentology of the Viking Formation, Gilby A and B Fields in South Central Alberta".

Holly spent her summer working with the Department's Basin Analysis Group on the Peace River Arch project. She has since returned to the University of Alberta to continue working towards a M.Sc. in Geology under Dr. Brian Jones.